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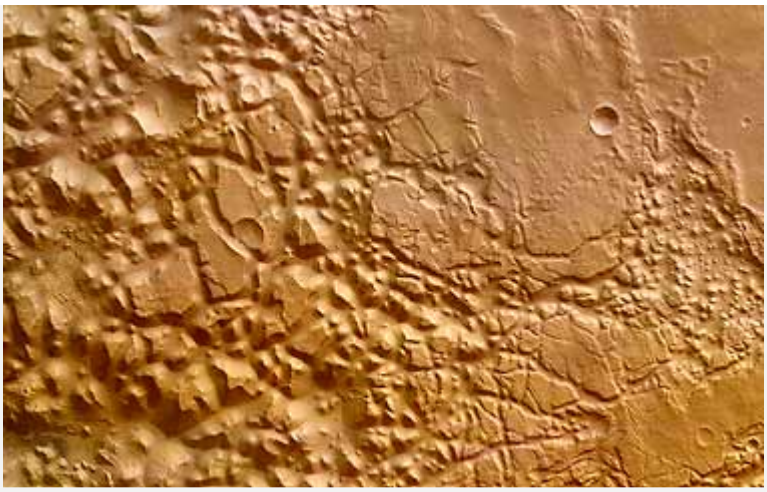
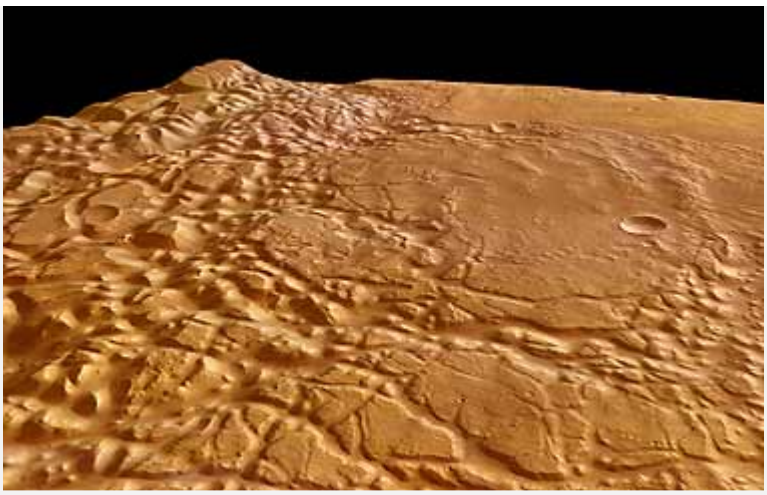
Chaotic terrain in Iani Chaos

17 July 2006

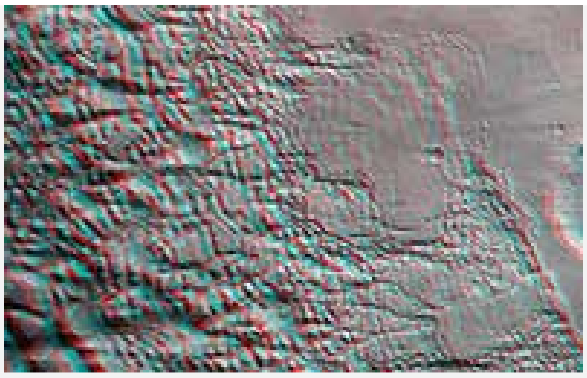


Iani Chaos, colour image



Iani Chaos, perspective colour view

These images, taken by the DLR-operated High Resolution Stereo Camera (HRSC) onboard ESA's Mars Express, show Iani Chaos, a region east of Valles Marineris characterized by a disrupted and chaotic appearance, similar to other so-called 'chaotic terrain' on Mars.



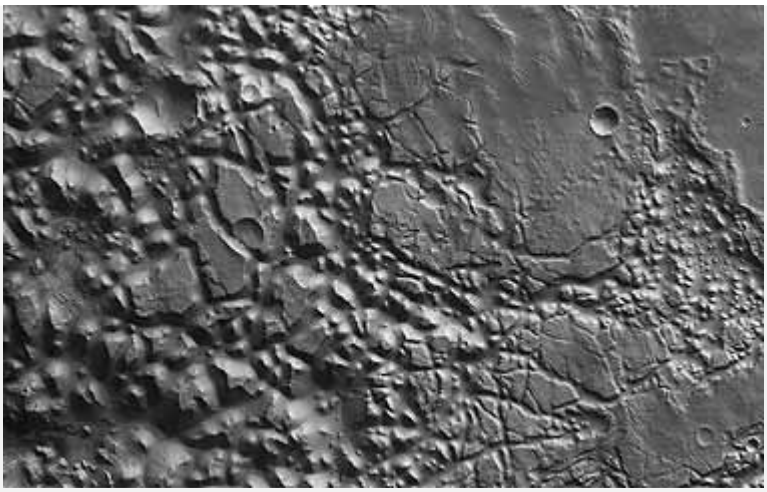
Iani Chaos, 3D anaglyph

The HRSC obtained these images during orbit 945 with a ground resolution of approximately 13.0 metres per pixel. The images show the region of Iani Chaos, lying at approximately 0.7° South and 340.6° East.

Iani Chaos is one of many regions east of Valles Marineris characterized by disrupted or chaotic terrain. The morphology of this terrain is dominated by large-scale remnant massifs, which are large relief masses that have been moved and weathered as a block. These are randomly oriented and heavily eroded. To the south (to the left) in the colour image, these mesas, which appear as flat-topped hills, range from less than one kilometre to roughly 8 kilometres wide, with a maximum relative elevation of approximately 1000 metres.

The relatively flat region in the north-west (upper right) of the colour image exhibits a number of faint, circular depressions. These depressions, along with the remnant massifs, may have been formed by collapse of the surface due to the removal of underlying material, for example ice or water.

Scientists believe that Iani Chaos was the source of the fluids thought to have created Ares Vallis, the roughly 1500-kilometre-long valley that extends to the north-west in the direction of Chryse Planitia.



Iani Chaos, black and white (north to the right)

Map showing Iani Chaos in context

The colour scenes have been derived from the three HRSC-colour channels and the nadir channel. The anaglyph image was calculated from the nadir and one stereo channel. Image resolution has been decreased for use on the internet.

The High Resolution Stereo Camera (HRSC) experiment on ESA's Mars Express mission is led by the Principal Investigator (PI) Prof. Dr Gerhard Neukum, who also designed the camera technically. The science team of the experiment consists of 45 co-investigators from 32 institutions and 10 nations.

The camera was developed at the German Aerospace Center (DLR) under the leadership of the PI, G. Neukum, and built in cooperation with industrial partners (EADS Astrium, Lewicki Microelectronic GmbH and Jena-Optronik GmbH).

The experiment on Mars Express is operated by the DLR Institute of Planetary Research, through ESA/ ESOC. The systematic processing of the HRSC image data is carried out at DLR. The scenes shown here were processed by the PI Group at the Institute for Geosciences of the Freie Universitaet Berlin (Free University Berlin) in cooperation with DLR's Institute of Planetary Research, Berlin.

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